NORTHERN VIRGINIA CORVAIRS

HOT AIR MAIL

NVCC, CORSA Chapter 220 | Volume XXIV, Number 1 | January 2007

CHAPTER CHATTER

By A. J. Paluska, Jr

Happy New Year! As you can tell from the officer listing at the bottom of this page, the NVCC has reelected its current slate of officers for 2007. Your editor was again unsuccessful (for the 5th time!) in his attempt to step down and was reelected, as was President Bryan Blackwell, Vice President Ron Tumolo, and Treasurer Curt Shimp. As you can also tell from this issue, the club has fleshed out the meeting schedule through June 2007. With the New Year and an incomplete calendar, now is the time for the membership to address any events they would like to recommend for club participation. It is your club so don't be bashful in making your thoughts and desires known to the officers. I'm sure that we'll be able to add a few more firm dates as the weather gets warmer.

If you didn't attend the December meeting, you missed a good party with a really nice gift exchange. Again this year there were plenty of children in attendance. They really enjoyed running around Ron's house. Christmas music was provided by the popular local band the Blackwell Boys, featuring the bass clarinet and the viola. The food was good and abundant and there was plenty of talk about topics other than cars and Corvairs!

Eleven members with their families attended the December meeting; however, we did miss L. D. Brent and Daniel Goldberg, long time regular attendees.

It was decided to have an additional meeting in January to bring members up to date on the latest Vair Fair planning. Date and time is to be announced over the club email list, so be on the look out for the message and plan to attend. The final logo and shirt designs should be available so you won't want to miss the meeting.

For January's meeting, to be hoisted by Bryan Blackwell, we will be inside to work on one of the engines he wants to rebuild. If you haven't done this before, or want to get a refresher course on how to do it, you have to attend the January meeting. Don't worry about the cold, heat will be provided! See page 4 for details.

Another project suggested for the coming year is to tear down and rebuild an engine over several meetings. Bryan and Ron both have the candidate engines.

To help out your editor, meeting hosts will provide "minutes" of their meetings. By doing this, the HAM will be provided with additional views and opinions on the monthly meetings. Also, this will enable your editor to focus on more stimulating, in-depth automotive investigation and testing articles. If you are interested in participating in this activity, just throw your hat, or rather word processor, even typewriter, into the ring. We will welcome all of your automotive endeavors.

Don't forget to pay your dues for 2007.

2007 NVCC Officers

President:	**Vice President:**	**Treasurer:**	**Secretary/Editor:**
Bryan Blackwell	Ron Tumolo	Curtis Shimp	A. J. Paluska, Jr
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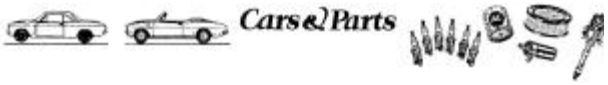

*****AUTOMOTIVE CLASSIFIED*****

63 Greenbrier: Powerglide, white/blue exterior with blue interior. 115, 000 miles, runs well, good condition, no rust through, a few rust spots. Manuals included. $2500.00. Call Jeremy at (703) 964-6999 (4/06)

63 Convertible: Red with good body and nice paint. Asking $2500.00, condition 3 to 4 on scale of 5. Contact Jim at (540) 465-5066. (9/06)

64 Convertible: 150 HP Turbo. New engine, extra engine and transmission. $3500 OBO. Call Monk Fleming at (703) 339-7272. (4/06)

65 Monza: 110 HP, 4 speed needs, some work, body not too bad, rockers have some bondo, trunk is solid, battery tray and rear quarters not too bad. Asking $1,950 or best offer. Located in Highland Springs (near Richmond, Virginia). Call Stewart: (804) 326-0919 or Cell 690-9000. (12/05)

66 Sedan: 110 HP, 4 speed, professionally restored in 2004, Winchester, VA. 51K miles, $5500. Call Bill at (540) 665-1837. (9/06)

Parts/Miscellaneous For Sale

Late Model Parts: 1, new 195/15-50H BF Goodrich Euro Radial T/A: $25. Free 65 front cross member. Call Curt Shimp at (540) 955-1516. (2/06)

Parts: From our club's 65 coupe parts car: Right hand door, 4 Monza Wheel disks. Call Venice Cox at (703) 791-6517. (1/05)

Parts: Darrin Hartzler has parts to clear out this spring. Does anybody need either a transaxle or a complete PG with transaxle? How about a late model 3 speed manual transmission? If so, let him know. Very cheap. (301) 365-7332 (2/06)

RARE HISTORICAL ARTIFACTS LOCATED!
Take this unusual opportunity to purchase a piece of Corvair history. Available for a limited time. Genuine 2003 Virginia Vair Fair T-shirts. A steal at $8.00, two for $15, in sizes S, M, L, XL. Hurry, this rare find won't last for long! Call Curt at (540) 955-1516.

Corvair Parts: Large parts lot available. Will not be sold separately. For information contact Kim at kimpjasonp@juno.com or whitetiger@hereintown.net.

NVCC Calendar

21 January 2007, 1PM: The regular NVCC meeting at the home of Bryan Blackwell.

17/18 February 2007: The regular NVCC meeting at the home of Ron Tumolo.

17/18 March 2007: The regular NVCC meeting at the home of Al Harris.

21 April 2007, 9:00 AM: The regular NVCC meeting at the home of A. J. Paluska, Jr.

4-6 May 2007: 28th Annual Virginia Vair Fair, Northern Virginia Corvair Club. Best Western, Leesburg, VA. Contact Darrin Hartzler, (301) 365-7332 or dhartzler@ifc.org. Mention Corvair for special $99+ tax room rate.

19/20 May 2007: The regular NVCC meeting at the home of Darrin Hartzler.

16/17 June 2007, 9:00 AM: The regular NVCC meeting at the home of Mike Puglisi.

24-28 July 2007, CORSA International Convention, Detroit Area Corvair Club: Detroit, MI. Best Western Sterling Inn (800) 953-1400 or (586) 979-1400. Contact Bill Jabs (503) 684-6595 or www.sterlinginn.com. Mention Corvair for special $99+ tax room rate.

Next Meeting:
Sunday, 21 January 2007, 1:00 PM

Bryan Blackwell
6329 Hillside Road, Springfield, VA
(703) 569-6908

Directions: Map/directions on the mailing cover.

Treasurer's Report:

Balance (11/25/06)	$1,977.92
Dues	20.00
Closing Balance (12/25/06)	$1,997.92

Reprinted from the November 2006 *Vairifiable News*, the newsletter of the Central Virginia Corvair Club

Bump Steer by Brent Covey on Virtual Vairs (Excerpt)

Strong anti-bump-steer is engineered into the Corvair front suspension in its stock configuration. The geometry of the Corvair was adopted by other GM lines starting with the 1968 Buicks. Buick trumpeted the change as' "Accu-Drive" in their advertising for a few years after '68 introductions.

Pretty much any suspension ride height decrease or tire width increase will kill this good geometry and add to the disturbing forces. Losing the benefits of the original geometry isn't the end of the world, they still drive fine but it makes them less than *perfectly* stable and free of twitch and makes straight line driving require slight attention where a stock car on factory tires could run for literally miles with your hand off the wheel originally if the alignment and road was good. Corvairs were renown for this attribute when they were new.

The factors that kill bump steer are related to the changes that happen in the suspension alignment as the wheel moves up and down in the body, mostly and to a lesser degree to the narrow original tires and the characteristic of a bias ply tire carcass to distort and sort of smother any obstruction instead of slamming right into it like a belted tire. Bias ply tires have some interesting characteristics but one of them is they will tolerate unbelievable impacts which tend to be absorbed fairly effectively in the tire body itself, without imparting extreme forces into the steering linkage and suspension. you could drive over a standard city square cornered curb in the region of 50 mph without very much potential for loss of control, you'd literally be likely to knock the spindle off before there was a problem from the drivers seat. The spindle geometry intersects the pavement at the road surface in line with the brake backing plate on stock height tires, approximately.

The usual aim of anti bump steer geometry is to maintain driver control in emergencies such as when you have launched the car right off the ground, and reduce fatigue from twitches on one wheel bumps. Speaking for a stock, new Corvair on the original tires, on small one wheel bumps, the tire striking the bump will move upwards slightly from normal ride height, and will alter its geometry slightly. It will steer outboard slightly on that wheel, and gain positive camber which reduces the track on that side nominally. This helps lessen the leverage of the disturbance, and reduces both the twitch in the wheel and the need to correct the course of the car, when the bump passes you're still on your original course and seldom feel much thru [sic] the wheel. In contrast to FWD cars, most R WD GM cars hang the tire cantilever past the spindle, which means the entire tread is outboard of the spindle axis which runs about 8 degrees tipped inwards to the car center. This was done to impart strong self centering for the steering from the forces trying to splay the tires from the car motion, but at parking speeds the tires roll around the spindle which significantly reduces parking effort. On FWD vehicles and many European makes, the steering axis intersects the road somewhere around the center of the tire tread, which kills torque steer impulses in FWD and is inherently less effected by any road disturbance or power/braking force but requires greater steering effort at low speeds, and requires things like greater steering axis inclination or high caster for straight line stability. One upside of the centered axis is rack and pinion steering isn't a problem on these vehicles as they have very small camber changes and there isn't much feedback via the steering under any circumstance, so the poor isolation of the rack and pinion style linkage isn't an issue even in quite heavy vehicles. The worm and sector recirculating ball type like Corvairs and most older cars use provides an added degree of isolation and driver control as the sector is damped because it has a hard time driving the worm, where the worm can turn the sector very easily. On power assisted steering the fluid around the assist piston functions well as a hydraulic damper as well.

If the Corvair is launched right off the ground and does a full compression slam to the stops, the tires go to extremely negative camber, and very toed out to carry the weight on the inboard side of the tread and dissipate the energy via tire scrub to assist the driver in maintaining control over the car .GM puts their energy into making sure the driver has the maximum leverage over steering at all times and that the cars natural geometry

changes do what they can to impart stability in a straight line in every case of disturbance by bumps of any intensity.

Suspensions are designed for the loaded height of the car -'design height'. Design height is the trim angle and suspension compression of a fully loaded car, which is level and quite low in a Corvair, the tops of the original tires are about even with the tops of the wheel openings at design height. If a car is not loaded heavily normally, you will still have good geometry from an anti-bump-steer perspective if the springs are changed to lower the car as you usually operate it to around the design height the factory intended for a loaded car. The softer the original suspension, the higher the unladen car sits of course. Late Corvairs have the same wheel rates as Cadillac, somewhere in the region of 75 lbs/in front and 160 in/lbs rear. These are increased to around 140/200 on F41/Z17 equipped cars with the suspension option. As a result, the F41 type cars sit about an inch lower at the back and an inch and a half lower at the front unladen. Loaded to max weight at design height, both cars sit pretty much the same.

The wider, shorter or more radially stiff the tire, the greater its propensity to transfer road disturbances into the suspension and steering. The moment you drop below design height, the car starts losing its self -correcting ability designed into the suspension. There are some other changes like steering effort increases as well.

Generally the differences are fairly minor and most go unnoticed but you do have to add any extra tire width outboard of the original and this in tandem with a large drop in suspension height could create some bump steer. Trying to maintain tire height, maintaining trim at least original design height, and slight positive camber on the front tires will recover most of the original inhibiting factors against bump steer, and usually you could get satisfying results.

Bryan Blackwell’s Plan for the January and Future Meetings

So, I have this pile of parts in the basement, I need a plan for how I'm going to move from that to a running engine. Let's define some goals: Durability. I'd like to get 5 to 10 years worth of autocrossing and track events out of this build. Power level. Everything I've read says that a Corvair engine that stays under 6500 RPM will last a long time.

To a certain extent, that limits other choices which will affect the overall power level. Let's say I'm trying for 160 to 180 net crank HP. That may not sound like much, but remember that a 140 only makes 121 HP net, so a 160 HP net engine is a 30% increase over stock, 180 is 50%. Budget. I'm willing to spend for required items, but really trick stuff - custom pistons, fuel injection, etc., are out. Let's say that counting the parts I already have, and allowing zero for my labor, the budget is around $4000 total. If I focus on the base engine, then hopefully I can bolt on other parts as time and money allow. Rules. I can't really afford an SCCA SM legal engine, so I'm staying within the SP rules. That means the internals have to match one of the stock or Stinger configurations, within the limits of available parts, and there are many available "bolt on" mods. I'll be building a copy of a Yenko Stage III engine, plus any allowed SP mods.

Alright, those a pretty broad goals. To achieve the durability and power, the first step will be on the shortblock. I'll be reviewing other sources, but roughly the list looks like this: Blueprint oil system, enlarge passages as suggested in performance guides, smooth passages. Remove flash to promote drainback to the oil pan. Baffle oil pan. I have a system in mind using an Offenhauser deep pan. The Otto parts pan and baffle would be similar. Pin crank. Crank gears sometimes will turn on the crank. Select cam to be close as reasonable to Yenko Stage III "short track" cam. These cams were approximately 280 degrees advertised duration and .450" lift. There are several similar grinds available (e.g. OT-20). Use Source deep dimple lifters. Degree cam and install Otto Fail Safe gear. Pistons and rods are Clark's reconditioned rods with TRW forged pistons balanced set. Bearings are new, but check using Plastigauge anyway. Convert PCV to modern "cross flow" system. Alright, that's it for now. I think this is a pretty good example of what a performance Corvair engine should look like, but there may be a few items I've missed, comments are welcome.